



DC load monitoring relay for PROFINET, max. 2x8 A / 1x16 A DC, max. 60 V Width: 22.5 mm Monitoring for violation of upper and lower limit of current, voltage and power; energy consumption counter, energy recovery counter, switching cycle counter, operating hours counter warning and alarm thresholds auto-reset or manual reset ON delay 0-999.0 sec, OFF delay 0-999.0 sec, automatic reclosing delay 0-999.0 sec Supply voltage: 24 VDC 1 change-over contact, screw terminal

product brand name	SIRIUS
product designation	DC load monitoring relay
design of the product	for PROFINET
product type designation	3UG5
General technical data	
type of current for monitoring	DC
product function	DC load monitoring relay
power loss [W] maximum	3 W
insulation voltage	
<ul style="list-style-type: none"> for overvoltage category II according to IEC 60664 with degree of pollution 3 rated value 	800 V
<ul style="list-style-type: none"> for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value 	600 V
<ul style="list-style-type: none"> of the auxiliary and control circuit for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value 	30 V
type of voltage for monitoring	DC
surge voltage resistance rated value	8 kV
maximum permissible voltage for safe isolation	
<ul style="list-style-type: none"> between auxiliary and auxiliary circuit 	24 V
<ul style="list-style-type: none"> between control and auxiliary circuit 	24 V
protection class IP	IP20
shock resistance according to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
vibration resistance according to IEC 60068-2-6	1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g
mechanical service life (switching cycles) typical	10 000 000
electrical endurance (switching cycles) for relay outputs maximum	100 000
<ul style="list-style-type: none"> note 	0.5 A 125 V AC, with resistive load up to 40 °C
thermal current of the switching element with contacts maximum	1 A
certificate of suitability	CE
reference code according to IEC 81346-2	K
Substance Prohibitance (Date)	05/31/2019
Product Function	
product function	
<ul style="list-style-type: none"> overvoltage detection DC 	Yes
<ul style="list-style-type: none"> undervoltage detection DC 	Yes
<ul style="list-style-type: none"> overcurrent detection DC 	Yes
<ul style="list-style-type: none"> undercurrent detection DC 	Yes
<ul style="list-style-type: none"> auto-RESET 	Yes
<ul style="list-style-type: none"> manual RESET 	Yes

Supply voltage	
type of voltage of the supply voltage	DC
supply voltage 1 at DC rated value	24 V
operating range factor supply voltage rated value at DC	0.85 ... 1.15
Measuring circuit	
measurable current	-8 ... +8 A
measurable voltage at DC	0 ... 60 V
adjustable voltage range	0 ... 60 V
adjustable current response value current	
• 1	-8 ... +8 A
• 2	-8 ... +8 A
adjustable response delay time	
• when starting	0 ... 999 s
• with lower or upper limit violation	0 ... 999 s
response time maximum	100 ms
relative temperature-related measurement deviation	0.5 %
internal resistance of the measuring circuit	10 mΩ
Communication/ Protocol	
protocol is supported	
• PROFINET IO protocol	Yes
• Address Resolution Protocol (ARP)	Yes
design of the interface Fast Ethernet interface	Yes
number of interfaces according to PROFINET	1
product function at the Ethernet interface Autocrossover	Yes
interface design 1 RJ45 (Ethernet)	Yes
product function at the 1st interface PROFINET IO device	Yes
number of ports at the 1st interface	1
service for open IE communication LLDP	Yes
transmission mode for Industrial Ethernet	PROFINET with 100 Mbps full duplex (100BASE-TX)
PROFINET conformity class	A
network load class according to PROFINET	1
Auxiliary circuit	
number of CO contacts for auxiliary contacts	1
ampacity of the output relay at DC-13	
• at 24 V	1 A
ampacity for overcurrent duration < 1 s maximum permissible	1 A
continuous current of the DIAZED fuse link of the output relay	2 A
Electromagnetic compatibility	
EMC emitted interference according to IEC 60947-1	ambience A (industrial sector)
EMC immunity according to IEC 60947-1	ambience A (industrial sector)
conducted interference	
• due to burst according to IEC 61000-4-4	2 kV
• due to conductor-earth surge according to IEC 61000-4-5	2 kV
• due to conductor-conductor surge according to IEC 61000-4-5	1 kV
field-based interference according to IEC 61000-4-3	10 V/m
electrostatic discharge according to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge
Galvanic isolation	
design of the electrical isolation	Protective separation
galvanic isolation	
• between input and output	Yes
• between the voltage supply and other circuits	Yes
Safety related data	
electromagnetic compatibility	IEC 60947-1 / IEC 61000-6-2 / IEC 61000-6-4
Connections/ Terminals	
product component removable terminal for main circuit	Yes

product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	screw-type terminals
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid — stranded — finely stranded with core end processing • at AWG cables for main contacts 	1x (0,5 ... 4 mm ²), 2x (0,5 ... 2,5 mm ²) 1x (0,5 ... 4 mm ²), 2x (0,5 ... 2,5 mm ²) 1x (0,5 ... 4 mm ²), 2x (0,5 ... 2,5 mm ²) 1x (20 ... 12), 2x (20 ... 14)
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid — finely stranded with core end processing • at AWG cables for auxiliary contacts 	1x (0,5 ... 4 mm ²), 2x (0,5 ... 2,5 mm ²) 2x (0,5 ... 1,5 mm ²), 1x (0,5 ... 4 mm ²) 1x (20 ... 12), 2x (20 ... 14)
tightening torque	
<ul style="list-style-type: none"> • for main contacts with screw-type terminals • for auxiliary contacts with screw-type terminals 	0.6 ... 0.8 N·m 0.6 ... 0.8 N·m

Installation/ mounting/ dimensions

mounting position	any
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail
height	100 mm
width	22.5 mm
depth	141.6 mm
required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards — at the side • for grounded parts <ul style="list-style-type: none"> — forwards — backwards — upwards — at the side — downwards • for live parts <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards — at the side 	0 mm 0 mm 50 mm 50 mm 0 mm 0 mm 0 mm 50 mm 3 mm 50 mm 0 mm 0 mm 50 mm 50 mm 3 mm

Ambient conditions

installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul style="list-style-type: none"> • during operation • during storage • during transport 	-25 ... +60 °C -40 ... +80 °C -40 ... +80 °C

Certificates/ approvals

General Product Approval	Declaration of Conformity	Test Certificates	other
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[Confirmation](#)



[Type Test Certificates/Test Report](#)

[Confirmation](#)

other



Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3UG5461-1AA41>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5461-1AA41>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

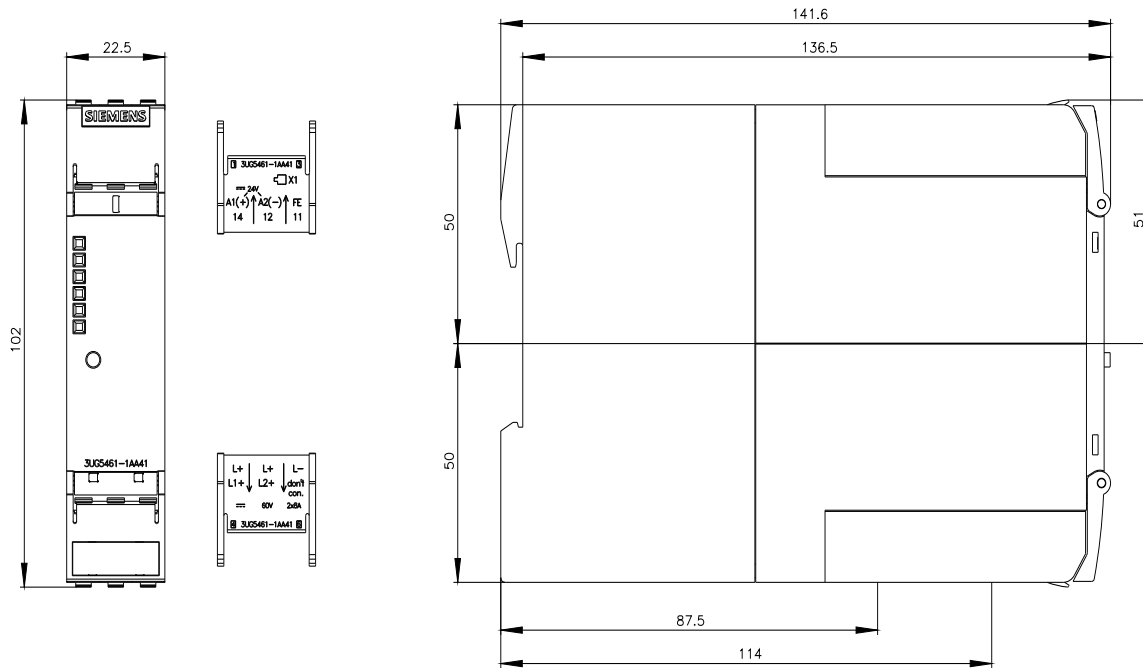
<https://support.industry.siemens.com/cs/ww/en/ps/3UG5461-1AA41>

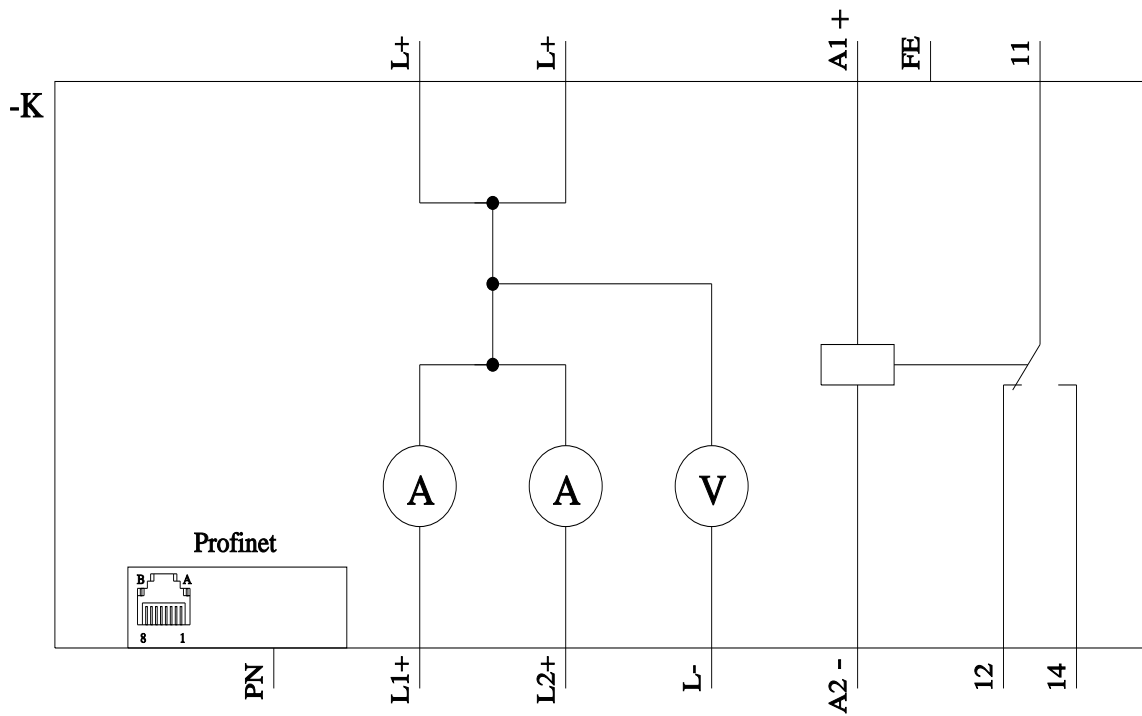
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG5461-1AA41&lang=en

Characteristic: Derating

<https://support.industry.siemens.com/cs/ww/en/ps/3UG5461-1AA41/manual>





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